

Bonobos' unusual success story

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Bonobos groom each other in Lui Kotale, Salonga National Park, Democratic Republic of Congo. Credit: Caroline Deimel/Lui Kotale Bonobo Project

Mate competition by males over females is common in many animal species. During mating season male testosterone levels rise, resulting in an increase in aggressive behavior and masculine features. Male bonobos, however, invest much more into friendly relationships with females. Elevated testosterone and aggression levels would collide with this increased tendency towards forming pair-relationships.

Bonobos are among the closest living relatives of humans. Like other great apes they live in groups made up of several [males and females](#). Contrary to other [ape species](#) however, male bonobos do not, in general, outrank female individuals and do not dominate them in mating contexts. This constellation suggests that the selection for typically masculine [behavioral patterns](#) like aggression, dominance and intrasexual

competition are met with antagonistic forces: On one hand it is advantageous if a male outcompetes a fellow male. This, however, implies that there is increased aggression and an elevated level of testosterone in high-ranking males. On the other hand – as dominance relations between the sexes are rather balanced in bonobos – it is likely that males benefit from having friendly pair-relationships with female individuals. Studies with birds and rodents show that a tendency towards forming pair-relationships correlates with lower male aggression rates and testosterone levels.

In a current study, Martin Surbeck, Gottfried Hohmann, Tobias Deschner and colleagues of the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, found that in wild bonobos high-ranking males were more aggressive and their mating success was higher when compared to lower-ranking males. Contrary to other species in which males compete fiercely over access to females, there was no correlation between dominance status or aggression with testosterone levels. In addition, the researchers found that high-ranking males invested more often than lower-ranking group members into friendly relationships with females. This suggests that these friendly relationships between the sexes are associated with lower male testosterone levels.

"Our study suggests that in bonobos – as in humans – intersexual friendships result in hormonal patterns that we know from species in which male individuals are actively participating in raising their young and in which the two sexes enter lasting pair-relationships", says Martin Surbeck.

Provided by Max-Planck-Gesellschaft

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